

nearly a 10-fold increase by the end of 7 days therapeutic feeding.

Depression of specific antibody function by protein depletion is therefore reversible. Feeding with high-quality protein or its equivalent will therefore restore within about 7 days a depleted animal's ability to produce antibodies of relatively normal titer. These findings suggest that it is not only important in a rehabilitation program to feed severely undernourished persons rations high in calories and vitamins, but also rations containing an adequate amount of high-quality proteins or their equivalent, particularly when bacterial infection is present or impending.

The exact mechanism whereby protein depletion de-

presses specific antibody production and protein repletion re-establishes it is still undetermined.

W. H. MANWARING,
P. O. Box 51,
Stanford University.

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BOOK REVIEWS

A BIBLIOGRAPHY OF INFANTILE PARALYSIS WITH SELECTED ABSTRACTS AND ANNOTATIONS—1789-1944. Prepared under direction of the National Foundation for Infantile Paralysis, Inc. Edited by Morris Fishbein, M.D., Editor, *Journal of the American Medical Association*; compiled by Ludvig Hektoen, M.D., Chief Editor, *Archives of Pathology* and Ella M. Salmonsens, Medical Reference Librarian, John Crerar Library, Chicago. Cloth. Pp. 672. Philadelphia, London, Montreal: J. B. Lippincott Company, 1946.

The last comprehensive survey of the literature on poliomyelitis was that of the Milbank International Committee published in 1932. During the 14 years that have since elapsed the many workers in that field have increasingly felt the need of another and more complete bibliography. The Milbank report consisted of a series of reviews of various phases of the subject and its bibliography contained only 830 of the more than 5,000 items which the present volume shows had been published up to that time. The latter contains over 8,400 references for the period ending with 1944, a striking witness to the tremendous interest which poliomyelitis has attracted in the medical profession and its ancillary services.

The arrangement of the present volume is admirable. The articles are consecutively numbered and listed by year, those within each year being given alphabetically. At the end of the volume is an index of authors followed by a subject index. The latter, while occupying 94 pages and extraordinarily detailed, is not absolutely complete. The important study of Rissler, for example, in which the first detailed histopathological study of acute poliomyelitis was presented, is not listed under Pathologic anatomy nor under Pathology, probably because of its un-descriptive title. An occasional omission of this sort is, of course, humanly unavoidable. Brief but usually adequate abstracts of papers of more than ordinary interest are given.

Of special interest to Californians is the fact that the first case report from this state (of a patient from Eureka) appeared in 1874-75 in the *Pacific Medical and Surgical Journal* under the name of G. M. Kober. The first recorded epidemic here, that of 1901 consisting of 55 known cases, was reported by Alice M. Woods in 1903 in the *Occident Medical Times*. The epidemic of 1910 was still larger, necessitating the appointment of a committee for the Study of Anterior Poliomyelitis in San Francisco under the chairmanship of the late E. C. Fleischner; its report in the *California State Medical Journal* was published in 1911 and recorded 139 or more cases. It was not until this time or shortly thereafter that the disease was officially listed and systematically reported in public health reports. For this state as elsewhere it is impossible to obtain an accurate estimate of

the prevalence of poliomyelitis in the nineteenth and early part of the twentieth century because reporting was casual and haphazard and the disease was classified with meningitis and other infections of the central nervous system. But the bibliography clearly indicates that the disease which during the last four decades has occurred in such large epidemics in the temperate zones began with sporadic cases and small outbreaks and took more than a century to reach its recent proportions.

The reviewer has not time nor space to discuss the many other interesting facts disclosed by the present volume, such as the development of our present knowledge of the pathology, epidemiology, clinical aspects, experimental research, and therapy, but they are covered with gratifying completeness and ease of reference. The medical world is deeply indebted to the National Foundation for Infantile Paralysis and to the labors of the editors of the bibliography for a notable addition to its armamentarium. Special commendation is due for the handsome format and conspicuously legible typeface of the volume.

PHYSICAL CHEMISTRY OF CELLS AND TISSUES.

By Rudolf Hober, University of Pennsylvania School of Medicine, Philadelphia, Pa.; with the collaboration of David I. Hitchcock, Yale University School of Medicine, Laboratory of Physiology, New Haven, Conn.; J. B. Bateman, Mayo Clinic, Rochester, Minn.; David R. Goddard, University of Rochester, Biological Laboratories, Rochester, N. Y., and Wallace O. Fenn, University of Rochester, School of Medicine and Dentistry, Rochester, N. Y. Cloth. Price, \$9.00. Pp. 676, illustrated. Philadelphia: The Blakiston Company, 1945.

As the title indicates, this book is for the experimental investigator of fundamentals of biological function, chiefly cells, including living and non-living models. This approach has been of unquestionable value in shedding light on the physico-chemical nature of living function, but the reader may sometimes wonder whether the devotees of this approach are making physiology the handmaid of physics and chemistry, for their sake, or whether the nature of living function is being explained in and for itself. Woodger has pointed out the serious limitation to, if not fallacy of, attempting to account for biological phenomena according to laws of physics and chemistry, and he gives many examples in his own book where these inanimate sciences fail conspicuously to elucidate striking and common every day phenomena. It would seem there is something "vital" (perhaps a poor term) or peculiar to the behavior of living tissues which must be taken into account for a better understanding of function than merely physics and chemistry. For instance, selectivity,